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IS 9471-1 (1980): Modular Lower Limb Orthotic Components, Part I: Stirrups [MHD 10: Medical Laboratory Instruments]

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Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

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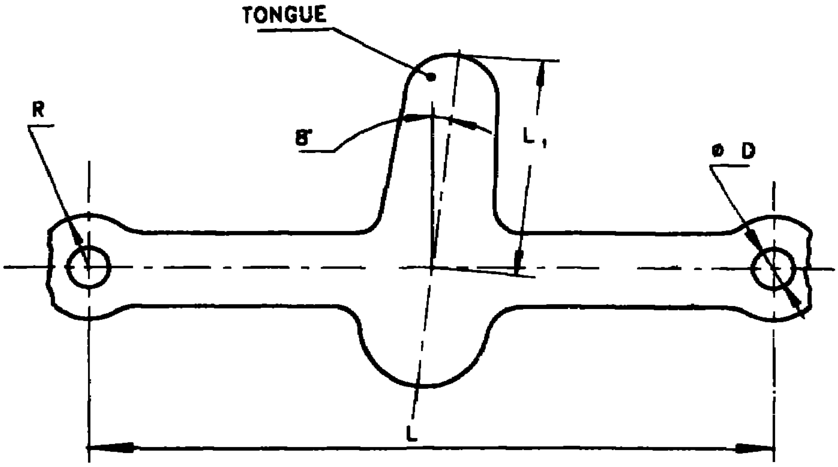
AMENDMENT NO. 1 FEBRUARY 1993
TO
IS 9471 (Part 1) : 1980 SPECIFICATION FOR MODULAR LOWER LIMB ORTHOTIC COMPONENTS

PART 1 STIRRUPS

(*Page* 2, *Fig*. 2) — Substitute the following figure for the existing figure:



Size	*L* ± 2	*L_1* ± 3	*Lobe Radius* *R* ± 0·25	*Hole* *Dia D, H8*
1	140, 160, 180	45	10	7
2	200, 220, 240	52	12	9
3	260, 280, 300	60	15	9

All dimensions in millimetres.

FIG. 2 STIRRUP

(MHD 10)

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Indian Standard

SPECIFICATION FOR MODULAR LOWER LIMB ORTHOTIC COMPONENTS

PART I STIRRUPS

Artificial Limbs Sectional Committee, CPDC 20; Prosthetic and Orthotic

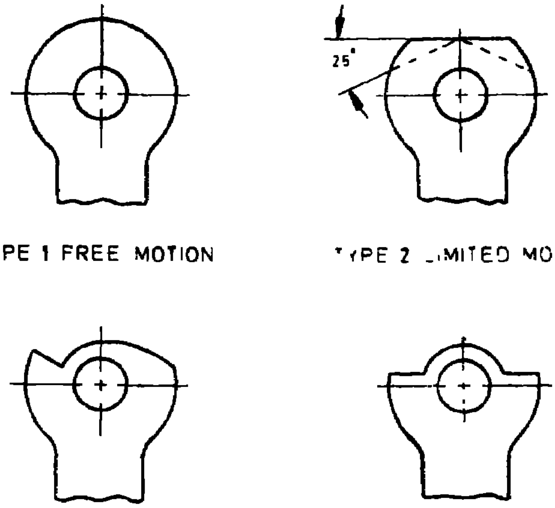
mmittee, CPDC 20 [Ref: Doc: CPDC 20 (1338)]

1. Scope — Dimensional and other requirements of full stirrups for modular lower limb braces.

2. Types — Four types of stirrups (according to their lobe configurations) shall be as follows:

a) *Type 1* — Free motion,
b) *Type 2* — Limited motion,
c) *Type 3* Foot drop, and
d) *Type 4* - Double action.

2.1 The general configurations of stirrup lobes for the types given in **2** shall be as indicated in Fig. 1.



TYPE 1 FREE MOTION

TYPE 2 LIMITED MOTION

TYPE 3 FOOT DROP

TYPE 4 DOUBLE ACTION

FIG. 1 TYPES OF STIRRUPS

3. Shape and Dimensions

3.1 *Shape* The typical shape of stirrup (other than the lobe configuration) shall be as given in Fig. 2.

3.2 *Overall Dimensions* — The overall dimensions of the stirrups shall be as given in Fig. 2. These dimensions shall apply to all types of stirrups.

3.3 *Dimensions of Lobes* - The general lobe configurations for different types are given in Fig 1. The lobe dimensions of each type shall be subject to performance considerations as given in **3.3.1** to **3.3.4**. The detailed dimensions shall be arrived at by the manufacturer depending on their individual designs when matched with their ankle.

3.3.1 *Free motion* (*Type 1*) The stirrup shall provide an unrestricted movement of at least 45 in both Plantar flexion and Dorsi flexion when assembled with the ankle joint unit.

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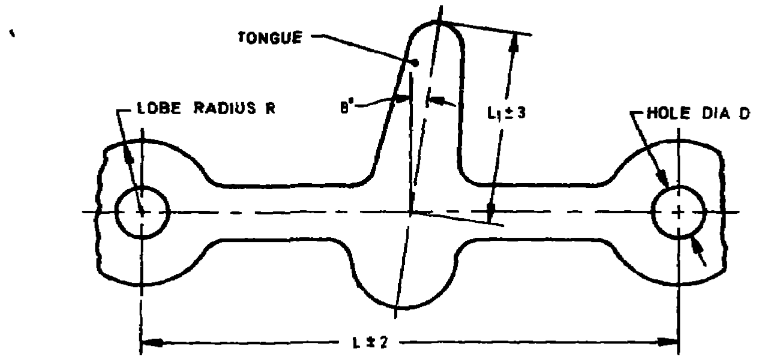

Sizes	L 2	L_1 3	R 0·25	DIA D H8
1	140, 160 & 180	45	10	7
2	200, 220 & 244	52	12	9
3	260, 280 & 300	60	15	9

All dimensions in millimetres

FIG 2 STIRRUP

3.3.2 *Limited motion* (*Type 2*) The stirrup end shall be finished as shown in Fig 1 Further shaping (as indicated in dotted lines) at the time of fitting shall provide 0 to 25° in Plantar or and Dorsi flexion as required.

3.3.3 *Foot drop* (*Type 3*) — The lobe shall be so contoured as to provide the following maximum flexion when assembled with its ankle joints at the time of its manufacture·

Plantar flexion	30
Dorsi flexion	15

Additional flexion of 10 either way shall be obtainable by further manual finishing at the time of fitting

3.3.4 *Double action* (*Type 4*) The lobe shall be so contoured as to provide equal Plantar flexion of 25° when used with appropriate ankle joint.

4. Material Mild steel sheet strip, cold rolled annealed Grade 0 of IS 513-1973 ' Specification for cold rolled carbon steel sheets (*second revision*) ' or hot rolled annealed Grade 0 of IS : 1079-1973 ' Specification for hot rolled carbon steel sheet and strip (*third revision*) ' Finished thickness of components shall be not less than 3·0 mm.

4 1 Alternatively stirrups may be manufactured from stainless steel sheet strip 3·0 mm thick hot cold rolled annealed conforming to designation 04Cr18Ni 10 or 07Cr18Ni9 of IS . 6911-1972 ' Specification for stainless steel plate sheet and strip '.

5. Workmanship and Finish All sharp edges shall be deburred. Stirrups shall be free from tool marks, scales, surface flaws and pittings. The stirrups shall be buffed clean and zinc plated to Grade I (FeZn 5) of IS 1573-1970 ' Specification for electroplated coatings of zinc on iron and steel '

5.1 Alternatively the stirrups may be plated chromium over nickel and the plating shall conform to Service Grade 2 of IS · 1068-1968 ' Specification for electroplated coatings of nickel and chromium on iron and steel '. Holes rendered under size in plating shall be acceptable and be reamed to size at the time of fitting if required. In the case of stainless steel stirrups they shall be buffed smooth, passivated and polished bright.

6. Marking The stirrups shall be marked with manufacturer's name intials or trade mark and proper identification of the type size and its material.

6.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

7. Packing — The stirrups shall be packed as pairs of same size and length in polyethylene bags and ends heat-sealed. The stirrup may also be packed as agreed to between the manufacturer and the purchaser.

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